ABSTRACT

A thin film resistor is formed by employing a plasma etch on a resistor material layer. The resistor material layer can be fabricated employing a nickel chromium (NiCr) alloy, or nickel chromium aluminum (NiCrAl) alloy. A plasma etch is performed in a magnetically enhanced low pressure environment with a chlorine chemistry mixture. The magnetically enhanced low pressure environment and the sufficiently selective chlorine chemistry provide a substantially controlled plasma etch of the resistor material layer to form the thin film resistor. In-situ thickness measurements or an endpoint optical emission system can be employed to determine when to halt the etching process to mitigate damage associated with etching of the layer underlying the thin film resistor.